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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/554,695	05/18/2000	KENICHI SHIRAISHI	0670-239	3568

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EXAMINER

BAYARD, EMMANUEL

ART UNIT PAPER NUMBER

2631

DATE MAILED: 01/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/554,695

Applicant(s)

SHIRAISHI, KENICHI

Examiner

Emmanuel Bayard

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) Z.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

1. This is in response to amendments filed on 10/14/03 in which claims 1-2 are pending. The applicant's amendments have been fully considered but they are moot based on the new ground of rejection. Therefore this case is made final.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saka et al U.S. Patent No 6,023,491 in view of Critchlow U.S. Patent No 5,311,545.

As per claims 1 and 2, Saka et al discloses a receiver comprising: a demodulation means (see figs. 1-12, 16-24 element 1 and col.13, line 53 and col.32, lines 51-53) for demodulating a PSK modulated signal of digital signals modulated by a plurality of PSK modulation method having different numbers of phases and multiplexed in time, by using carriers (fc1 , fc2) reproduced by carrier recovery (see element 9 and col.32, line 61) corresponds to the claimed (carrier reproduction means), and outputting I and Q symbol stream data; reception signal phase rotation angle detection for detecting a phase rotation angle relative to a transmission side of the I

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and Q symbol stream data output from said demodulation means (see elements 6 or 14 and col.14, lines 12-15 and col.30, lines 55-56); a complex multiplying (see element 11 and col.30, line 54) for phase rotation means for rotating a phase of I and Q symbol stream data output from said demodulation means by a phase rotation angle detected by said reception signal phase rotation angle detection means (see elements 6 or 14), wherein the carrier reproduction means (see element 9) of said reproduction means has ROM circuit (see fig.32 element 33) corresponds to the claimed (phase error tables) for respective modulation method, the tables storing (see col.46, lines 46-55) carrier phase error (see element 12 and col.2, lines 30-34) data for various demodulated I and Q symbol stream data pairs, and while said demodulation means (see element 1) demodulates a reception signal corresponding to each of the modulation methods, phase error data (see element 12 and col.2, lines 30-34) corresponding to the demodulated I and Q symbol stream data is read from the ROM circuit (see element 33) (phase error table) corresponding to the modulation method to correct the phase carriers, the receiver being characterized in that; while said demodulation means (see element 1) demodulates a reception signal corresponding to each of the modulation methods, the carrier reproduction means (see element 9) reads the phase error data corresponding to demodulated I and Q symbol stream output from said complex multiplier phase rotation (see element 11) means from the ROM storing (phase error table) (see fig.32 element 33) corresponding to the modulation method to correct the phase carriers.

However Saka et al complex multiplier does not teach an inverse phase rotation means for inversely rotate a phase.

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Critchlow teaches a phase rotation for inversely rotate a phase thereby performing absolute phasing (see figs.2-4 element 33 and col.5, lines 17-20).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Critchlow into Saka as to rotate the incoming phase samples for use by the adaption algorithm to track different frequency offsets as taught by Critchlow (see col.5, lines 17-27).

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Andren et al U.S. Patent No 5,883,921 teaches a short burst acquisition circuit.

Kroeger et al U.S. Patent No 5,579,345 teaches a carrier tracking.

Janc et al U.S. Patent No 4,893,316 teaches a digital radio frequency receiver.

Takahashi et al U.S. Patent No 5,881,099 teaches a signal processing circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is (703) 308-9573. The examiner can normally be reached on Monday-Thursday from 8:00 AM - 5:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour, can be reached on (703) 306-3034. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3800.



Emmanuel Bayard

Primary Examiner

December 30, 2003